

WHAT IS CLAIMED IS:

1. A polishing method, characterized in that a surface to be polished of an object to be polished is polished by using a polishing pad while existing an aqueous chemical mechanical polishing solution containing an oxidizing agent between polishing surface of said polishing pad equipped with a polishing part that contains abrasive, and said surface to be polished of said object to be polished.

2. The polishing method according to Claim 1 wherein said abrasive is comprised of at least one selected from the group consisting of ceria, silica, alumina, titanium oxide, chromium oxide, manganese dioxide, dimanganese trioxide, iron oxide, zirconium oxide, silicon carbide, boron carbide, diamond and barium carbonate.

3. The polishing method according to Claim 2 wherein said polishing part is formed by solidifying an aqueous dispersion in which a matrix material and abrasive are respectively dispersed and contained.

4. The polishing method according to Claim 3 wherein abrasive is not contained in said aqueous chemical mechanical polishing solution.

5. The polishing method according to Claim 4 wherein at least one multivalent metal ion selected from the group consisting of multivalent ions of aluminum, titanium, chromium, manganese, iron, copper, zinc and cerium is further contained in said aqueous chemical mechanical polishing solution.

6. The polishing method according to Claim 5 wherein an organic acid is contained in said aqueous chemical mechanical polishing solution.

7. The polishing method according to Claim 6 wherein said surface to be polished of said object to be polished contains at least one element selected from the group consisting of metal elements belonging to the group 3 to 13.

8. The polishing method according to Claim 7, which is to be used in the manufacture of a semiconductor device.

9. The polishing method according to Claim 4 wherein at least one heterocyclic compound selected from the group consisting of a condensed ring compound composed of a nitrogen-atom-containing penta-heterocyclic compound or a nitrogen-atom-containing hexa-heterocyclic compound and a benzene ring or a naphthalene ring is further contained in said aqueous chemical mechanical polishing solution.

10. The polishing method according to Claim 9, which is to be used in the manufacture of a semiconductor device.

11. The polishing method according to Claim 2 wherein said polishing part is formed by solidifying an aqueous dispersion containing dispersed composite particles where abrasive is attached to a matrix material.

12. The polishing method according to Claim 11 wherein abrasive is not contained in said aqueous chemical mechanical polishing solution.

13. The polishing method according to Claim 12 wherein at least one multivalent metal ion selected from the group consisting of multivalent ions of aluminum, titanium, chromium, manganese, iron, copper, zinc and cerium is further contained in said aqueous chemical mechanical polishing solution.

14. The polishing method according to Claim 13 wherein an organic acid is contained in said aqueous chemical mechanical

polishing solution.

15. The polishing method according to Claim 14 wherein said surface to be polished of said object to be polished contains at least one element selected from the group consisting of metal elements belonging to the group 3 to 13.

16. The polishing method according to Claim 15, which is to be used in the manufacture of a semiconductor device.

17. The polishing method according to Claim 12 wherein at least one heterocyclic compound selected from the group consisting of a condensed ring compound composed of a nitrogen-atom-containing penta-heterocyclic compound or a nitrogen-atom-containing hexa-heterocyclic compound and a benzene ring or a naphthalene ring is further contained in said aqueous chemical mechanical polishing solution.

18. The polishing method according to Claim 17 wherein an organic acid is contained in said aqueous chemical mechanical polishing solution.

19. The polishing method according to Claim 18 wherein said surface to be polished of said object to be polished contains copper.

20. The polishing method according to Claim 19, which is to be used in the manufacture of a semiconductor device.

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